

## REMARKS

Applicants respectfully request consideration of the subject application as amended herein. This Amendment is submitted in response to the Final Office Action mailed December 15, 2005 and in response to the Advisory Action mailed March 9, 2006. Claims 13, 17-22, and 27-31 are rejected. Claims 13, 18, and 19 have been amended.

### **35 U.S.C. § 103 (s)**

The Examiner rejected claims 13, 17-20, 22, and 27-31 under 35 U.S.C. § 103(a) as obvious over Akbar et al (U.S. Pat. No. 4,957,875 “Akbar”) and in view of Eklund (U.S. Pat No. 5,087,580, “Eklund”). Applicant respectfully disagrees.

Independent claim 13, in its currently amended form reads:

A bipolar junction transistor comprising:  
in a substrate, a first isolation structure spaced apart from a second isolation structure;  
an epitaxial base layer formed in the substrate;  
an emitter stack disposed above the substrate and between the first isolation structure and the second isolation structure;  
a recess disposed immediately adjacent to the emitter stack and disposed between the emitter stack and the first isolation structure, wherein the recess exposes a collector tap, wherein the emitter stack and the recess share a boundary; and  
an emitter cut provided at the bottom of said emitter stack and immediately on top of an intrinsic base structure formed in the epitaxial base layer of the substrate.

In Akbar, the collector (12) is formed immediately above the epitaxial layer (34). The base layers ((22) and (14)) are then formed above the collector (12). The base layer is then not intrinsic and not formed in the epitaxial layer (34). Thus, Akbar did not teach an epitaxial base layer formed in the substrate. As such, even if Eklund taught an emitter cut, combining Eklund to Akbar does not teach or suggest “and emitter cut provided at the bottom of said emitter stack and immediately on top of an intrinsic base structure

formed in the epitaxial has layer of the substrate.” Also, in Akbar, the base layer 14 is a polysilicon base layer. Thus, should there be an emitter cut, it would have not be an emitter cut as recited in claim 13. Applicant submits further that the intrinsic layer region in the epitaxial base layer is different from a polysilicon base layer. In Akbar, various doping steps are used to change areas of the substrate to obtain the collector and the base layer. On the other hand, in Applicants invention, to form the intrinsic base region, an area of the substrate is etched and monocrystalline silicon is ground in the etched area. Therefore, Applicant submits that claim 13 is not obvious in view of Akbar and Eklund.

Claims 17-20 and 27-31 depend from claim 13. Thus, the discussion above similarly applies. Therefore, Applicant also submits that claims 17-20 and 27-31 are not obvious in view of Akbar and Eklund.

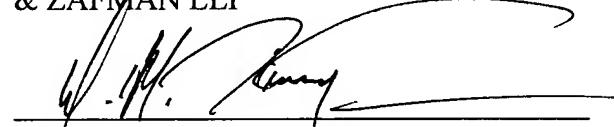
**Deposit Account Authorization**

Authorization is hereby given to charge our Deposit Account No. 02-2666 for any charges that may be due. Furthermore, if an extension is required, then Applicant hereby requests such extension.

If the Examiner determines the prompt allowance of these claims could be facilitated by a telephone conference, the Examiner is invited to contact Mimi Diemmy Dao at (408) 720-8300.

Respectfully submitted,

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